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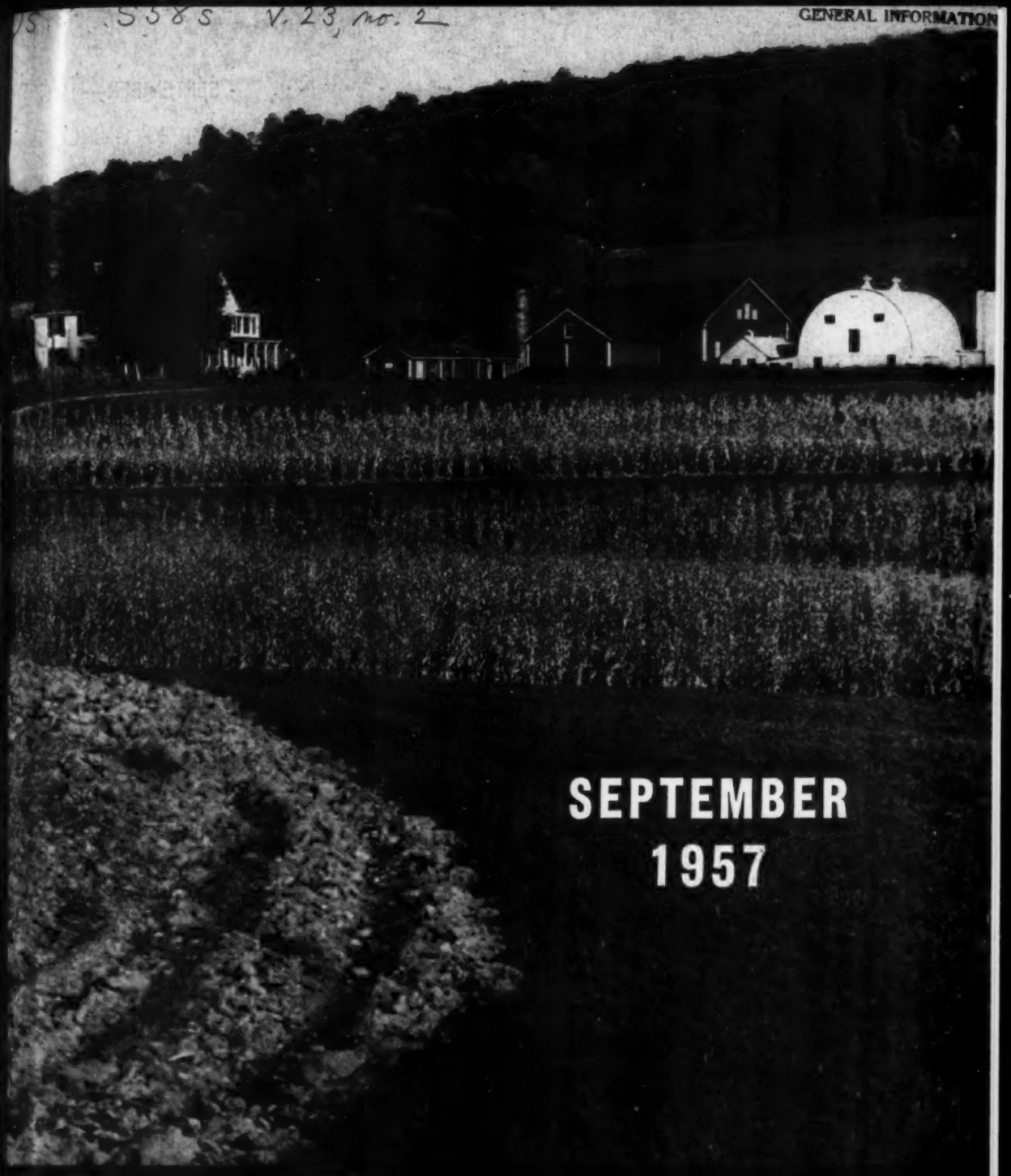

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SOIL CONSERVATION

EZRA TAFT BENSON
SECRETARY OF AGRICULTURE

DONALD A. WILLIAMS
ADMINISTRATOR, SOIL CONSERVATION SERVICE

OFFICIAL ORGAN OF THE SOIL CONSERVATION SERVICE
U. S. DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C.

★ THIS MONTH ★

	PAGE
GROUP ACTION IN DAMODAR VALLEY *By W. W. Hull*	27
PINES AND STRAWBERRIES *By Meredith A. Peters*	34
THERE OUGHTA BE A LAW *By Everett Leadbetter*	36
ECONOMIC OBSTACLES TO CONSERVATION FARMING *By Melvin G. Blase*	38
THE WAUPACA STORY *By W. H. Lathrop*	40
NEW STYLE PLANTATION *By Barrington King*	42
IT DOESN'T COST *By Frederick T. Mott*	45
ONE MAN'S FARM *By John M. Cross*	47

TOM DALE, Editor

SOIL CONSERVATION is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business. The printing of this publication has been approved by the Bureau of the Budget, July 18, 1955. SOIL CONSERVATION supplies information for workers of the Department of Agriculture and others engaged in soil conservation.

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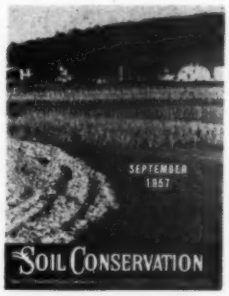
TWENTIETH ANNIVERSARY. — The highlight in observing the 20th anniversary of the passage of the South Carolina Soil Conservation Districts Law, on April 17, was a concurrent resolution by the Senate and House of Representatives of the State Legislature giving recognition to the event.

The resolution cites: "The notable progress made by the more than 41,000 landowners of the State who are utilizing the resources of the districts in developing and applying technically sound soil- and water-conservation programs on the more than 7 million acres of farmland operated by them."

Commended in the resolution for their accomplishments were "the 220 public-spirited farmers, now serving as supervisors in the 44 districts, and the several hundred additional individuals who have so served during the past two decades."

Newspapers of the State publicized the event widely.

Editors are invited to reprint material originating in this magazine.



FRONT COVER.—The farm of Mrs. Nellie Thrasher, near Jefferson, Md., 4 years after a complete conservation program was established in 1 day.

—Photo by Hermann Postlethwaite

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Group Action in Damodar Valley

A Soil Conservationist Explains Some of the Problems Encountered in Getting Conservation Farming Started on Small Fields of Farmers in India.

By W. W. HULL

FROM about 1940 until 1953, while I was with the Soil Conseration Service in the United States, I heard a lot of talk about "group farm planning," "group action," "working with natural neighbor groups," and the like. I read a lot about them too, and talked about them, and wrote about them some myself. But, it was only occasionally that I had a part in doing them.

I reached India in August 1953, and looked around the Chota Nagpur Plateau, of Bihar State, where I was to work. I realized at once that we would have to work with many groups of people if we expected to establish any kind of conservation farming pattern. There simply wasn't room enough to do it on one man's small, narrow strip of land. The custom for untold generations was to divide the farmland among the children, until by the simple factor of multiple divisions, strips of land, 10 to 20 feet wide and up to 800 feet long sometimes would be the inheritance given to a son. In order to establish any conservation practices over a good sized area it would be necessary to combine these many and various sized plots of ground belonging to as many varied owners.

We have established some soil conservation farming by working with groups of these farmers and that is the main point of this story. But before we discuss that I should like to tell why I am in India, a little about the people with whom I work, and the conditions and problems with which we have to deal.

I came under the Point Four program as a consultant in soil conservation to the Damodar Valley Corporation, known locally as DVC. This is a public corporation patterned after TVA. It was established in 1948, and has responsibility for harnessing the unruly Damodar River and developing its valley.

In the past, the Damodar has had some terrible floods. To stop or reduce them is DVC's first objective. Second, in importance, is to provide irrigation for more than a million acres of land in the lower valley. These objectives are being accomplished by means of 4 major dams. These dams and 2 thermal stations will develop over 400,000 kilowatt hours of electric power. The irrigation canals will improve navigation in the lower valley. Several headwater dams have been built and others have been planned.

The watershed above the lowest dam covers about 7,200 square miles. There is a lot of erosion in the upper valley. It has a monsoon climate with average annual rainfall of about 50 inches. Half the rain comes in July and August and 82 percent from June through September. Rainfall intensity is sometimes high.

Rice is by far the most important crop. It is grown during the monsoon mostly without irrigation. The regular riceland is bench terraced and there is no erosion problem to speak of. The terraced paddy fields make up about 20 percent of the upper valley, or nearly one million acres.

Maize, potatoes, wheat, mustard for oil, and vegetables of many kinds are grown near the village homes on land that is nearly level. This land receives heavy applications of ashes and

Note:—The author is soil conservation advisor employed by the International Cooperation Administration, assigned to the Damodar Valley Corporation with headquarters at Hazaribagh, in Bihar State, India. Previously, he was a zone conservationist for the Soil Conservation Service, Spartanburg, S. C.

Contour plowing of terrace line in Damodar Valley.

animal manures and occasionally chemical fertilizers. It is mostly class I land and is farmed intensively with fairly good yields. It is usually the only land that is fenced. There are only about 80,000 acres of such land.

Further away from the homes, crops such as gram, pigeon peas, upland rice, millet, and oilseed crops are grown. These lands are not manured as heavily as those adjacent to the homes. A small area receives enough manure to permit cropping every year, but most of it is never manured and is cropped only 1 year out of 2 or 3; the rest of the time it is left fallow. The volunteer grasses, legumes, and other vegetation are grazed heavily. Yields on this land are very low—frequently only 3 to 6 bushels per acre. However, some of this soil is potentially very productive.

None of these sloping upland fields is terraced, although a few have small bunds along the property edges that have tended to cause benching. By American capability classification standards the land would be mostly class II and class III, with less class IV. There are slightly less than a million acres of these uplands.

Most of the upland soils are slightly acid, red, sandy loams. They are not laterites, but have been influenced by the laterization process and contain large amounts of iron and aluminum. When dry and barren the undisturbed surface becomes glazed with iron oxide and is very hard. Unless the crust is broken with a plow, infiltration is slow and runoff is great. There is a small acreage of gray, calcareous, clay loam soil. These soils shrink and crack badly during the dry season.

Both types of soil are subject to severe gully erosion. Gullies in the red soils have vertical or caving heads. In the gray soils, gully heads usually are inclined. Gullies start near water courses and extend up from there. In a few cases, they have met by cutting across dividing ridges.

Farmers maintain their cattle, buffaloes, sheep, and goats on land they do not own, not only by custom, but by legal right. Some of the land belongs to their neighbors; some of it is set apart as common grazing ground; some is forest land, which belongs to the State, but on which farmers have rights to cut and graze; some is idle and is aptly named "wasteland." This also belongs to the State. There is no incentive of land ownership to encourage farmers to regulate grazing; it is overdone to the extreme.

Bad land management practices have led to severe erosion not only on upland fields and grazing grounds, but in the forests as well. There are vast areas of completely gullied land that we in the United States term class VII or VIII. These gullies are eroding good upland

fields and sending countless tons of soil into the newly made reservoirs.

With commendable foresight, the DVC established a soil conservation department in the early days of its existence. It is a complete unit with Forestry, Engineering, and Agronomy Divisions.

The people engaged in this work are well qualified. They have had fewer years of experience with field operations than comparable groups in the United States, but have had more formal education.

When I arrived, I found that this organization had done work of high quality on land that DVC owned or controlled, and this work has continued. Accomplishments include reclamation of 7,000 acres of eroded wasteland by machine clearing and terracing. This was used to resettle people who were displaced by the reservoirs. About 2,000 acres have been reforested and fenced and are being properly managed. The Forestry division is now planting trees at the rate of 1,000 acres a year and is collaborating with Bihar State in planting 4,000 acres a year within the valley.

Five medium size dams provide 15,000-acre feet of storage and supply irrigation water for 4,700 acres. Several smaller dams provide water for resettled villagers and add to the irrigated area.

Soil surveys have been completed on more than 300 square miles. Research, which is under way, includes the testing of fertilizers and cultural practices on various crops and crop rotations, studies on the adaptation and management of forage grasses and legumes, and measurement of soil and water losses under different cropping and management practices.

Little soil conservation work, as we know it, had been done on farmland prior to my arrival. The Extension officer and his associates had conducted many demonstrations of improved cropping practices, including the use of fertilizer and better seed on farmers' fields. These had been effective in arousing the interest and gaining the confidence of farmers in several villages. So the stage was set for a complete program of the proper use and treatment of farmland.

In the spring of 1954, Extension officer, S. P. Sahai and his assistant M. N. Jha, persuaded 34 landowners and sharers to undertake a complete job of soil conservation on 17 acres of sloping upland. This gets us back to group action. There wasn't any way to terrace this land and provide a proper water-disposal sys-

Constructing a terrace with native equipment in Damodar Valley.

A terraced field, planted to corn, soon after a rain.

tem without crossing property lines at innumerable places. This would cut the already small fields into still smaller segments.

The only possible way to do the job right was to rearrange their properties along contour lines. I was skeptical that 34 farmers could be persuaded to join in such an undertaking, but my coworkers set out to do it, and they did. At that time it was the most outstanding example of group action I had witnessed. Since then I have seen some that surpass it.

A 50 acre tract of upland in Nawdiha village will serve as an example of what I mean. This land was registered in the names of 32 farmers, but in addition there were 109 relatives who either farmed cooperatively with them or cultivated a part of the land separately. There were 204 surveyed and numbered plots, each one recorded in the court's books. This land was divided into narrow strips; some running up and down the slope and ending abruptly in gullies.

We temporarily ignored the property lines and developed plans exactly as we would on a single farm in the United States. We laid out a land-use plan and water-disposal system including roads, terraces, waterways, and structures. As best we could, we divided the area into cropland and permanent meadow on the basis of inherent capability, the requirements for safe disposal of water, and on the needs and wishes of the farmers.

The land was bordered on three sides by gullies. Some of these gullies had been reclaimed into paddy fields by bench terracing; others were raw, with vertical, caving heads.

A strip of land between the gullies and the cropland was planned for permanent meadow. The meadow was to be planted to tall forage grasses that would be cut and fed, but not grazed.

We planned two access roads on ridges, and laid out graded terraces to drain from these roads into sodded outlet channels or to the meadow areas. The cropland was to be farmed on the contour with a rotation of crops that included legumes and cereals. All crop and meadowland was to be fertilized. A few of the more active gully heads were to be sloped and sodded. Mechanical structures and sod flumes were to be provided to take water into the gullies and paddy fields.

The deal we worked out with the farmers was that they would build the terraces and we (D.V.C.) would establish the grass waterways and all necessary structures. DVC would bear two-thirds of the cost of sloping and sodding gully heads and of putting small diversion channels around them. Also, DVC would furnish fertilizer for the crops and meadow the first year, and half the fertilizer the second year provided the farmers would first supply their share. This land had never had any chemi-

cal fertilizer before and had had very little organic manure.

The plan was that each farmer would give up his scattered, long, narrow fields and we would reallot to each of them a portion of the land for cultivation and meadow, with the consolidation of holdings into 32 contour cultivated fields and 32 meadow fields. All cultivated land would be parallel with the terraces. The proportion of grassland to cropland would be approximately the same for each man. Each would contribute his land share to the roads and waterways which then would become common property for the use of all.

All of these plans were executed in 1 year except that the planting of grass was not completed. Yields were far better than these farmers had ever known.

The village of Nawdiha is a fairly typical example of the work that is being done and that is gradually being expanded. From a start on 17 acres in 1954, Messrs. Sahai, Jha, and the other workers associated with them, have now treated 1,100 acres in 19 villages. They have consolidated the property holdings on the contour on nearly 700 acres.

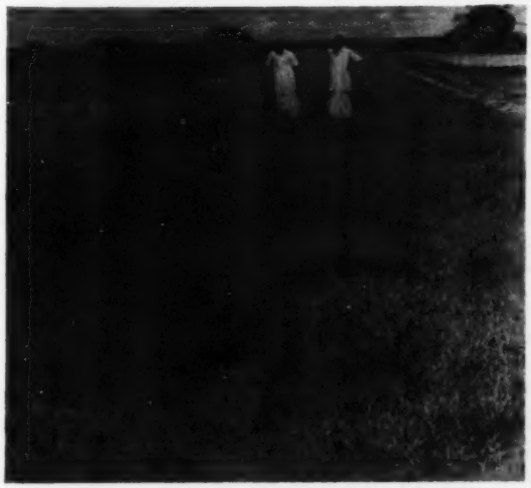
To American work unit conservationists, with large goals, these figures are perhaps not impressive. The size of the job looms larger, however, when you consider all the complications and people involved.

In another area we had 163 acres of land in 4 representative villages. The ownership of this land was surveyed and mapped in 1911-12. At that time there were 202 owners and their land was divided into 1,042 numbered plots. Since then, 15 acres had been consumed by encroaching gullies. In our planning we used 2 acres for roads, 3 for grassed waterways, and put 37 acres in permanent meadow. That left 106 acres of cultivated land to be redistributed to the 202 farmers in strips parallel to the terraces. The job of measuring, distributing, and staking out this land was a large one.

Then, what about getting 202 people to agree to accept the land allotted to them? Actually it was much more complicated than that, because the number of sharers (brothers, sons, etc.) had increased to 612 since the survey was made. We did not attempt to divide the land among different members of a family; that was left to them. But, all these sharers did increase tremendously the number of people to deal with and to satisfy.

I think most Americans must, by now, be wondering how it was possible to get so many people to agree to something so revolutionary. I am still filled with wonder myself, because land ownership is a vital thing to Indian villagers.

One thing that has helped is that the soil in these upland fields is rather uniform. The land a man gives up is about similar to what he gets in return. Then too, consolidation of



Grass waterway serving as a terrace-outlet channel for a group conservation project in Damodar Valley. (above) Waterway after shaping; (below) after a year's growth of fertilized bermudagrass.

Indian farmer harvesting the best corn crop he has ever grown from a recently terraced and fertilized field.

scattered, small holdings is to them a decidedly practical thing.

Take the case of land owner Mina Mistri, and his three brothers who share the land with him. Mistri is one of the larger landowners of the Nawdiha village. He and his brothers have other land, but in the 50 acre block on which we worked, they had 3.9 acres. It was divided into 26 plots at 7 locations. Each brother had land at each location.

The distance between the two most widely separated plots was 1,700 feet. For these fellows to move from plot to plot in every farm operation was quite a chore. Now, their cultivated land has been reduced to 2.5 acres, but it is all in one place and it fits perfectly into a pattern of conservation farming. In addition they have 1.2 acres of grass nearby.

Still another explanation of why all these people could agree is that the combination of practices—terracing, contour cultivation, fertilization, line sowing rather than broadcasting, better seed, better weeding, and use of insecticides greatly increased production.

Let's see how our man Mina Mistri and his brothers come out; not exceptionally well, as a matter of fact. Their crop was among the poorest in the Nawdiha Project; about 20 percent below the average. Yet, their crop of upland rice on their 2.5 acres was valued at $72. The cost of fertilizer, seed, and insecticides was $28. Their net labor income was $44. According to their estimates their previous crops on 3.9 acres were worth $36, but this was produced in alternate years only.

A more impressive case is that of Gosh Mohammed of Romi village. He and his neighbors had completely abandoned an upland field and it had been idle for 15 years. After terracing and having the plots consolidated and reallotted, Gosh Mohammed had 3.6 acres for cultivation. In 1956, he had a yield of 2,050 pounds of upland rice per acre. The net value above the cost of fertilizer, etc., was $42.50 per acre, or $153 for the 3.6 acres, which had produced nothing in the last 15 years.

The 124 farmers of Lupung village did exceptionally well on their 24 acre upland field. After terracing and consolidating their holdings, they planted a mixture of upland rice and pigeon peas. Their average production was 1,520 pounds of rice and 600 pounds of pigeon peas per acre. This was worth $53 an acre after deducting the cost of materials, and compares with less than $8 an acre they were making before their conservation plan.

However plausible these explanations may be for our success in persuading so many farmers to cooperate, still another reason must be mentioned. It is that Messrs. Sahai, Jha, and their helpers have done a fine job of working with and leading these people to take action. They have not pushed them. They have taught them and led them. The first group took action because of faith in these technicians based largely on what they had seen them do with fertilizers. Since then the leaders of new groups have been taken to the villages where conservation work had been done or was in progress. They have seen the crops on the new fields and have talked to the farmers who did the work. The grapevine has been working, and now each group knows what it is getting into.

Even so, it hasn't been easy. One group backed out, even after we had run the terrace lines. But after watching their neighbors in the next village for a year, they put their thumbprints on another application. Of course, we will have to run the terrace lines all over again.

Another group refused at first to accept the

allotment of land. We followed a rule of allotting land to each man as near as possible to the place where most of his land was before. But, most of the people wanted their new land to be near the top of the slope.

The technicians first explained how the allotment had been arrived at. Then they said: "It doesn't make any difference to us how the land is divided. We have done it as fairly as we know how. Suppose you do it yourselves. Select a committee. We will make available to you all our maps and measurements and our surveyors. You divide up the land and whatever you agree on will suit us fine."

The people struggled with the problem for a week, then came back and said: "We'll take it as you have it."

Of course it is not humanly possible to please everyone in an undertaking of this kind. Occasionally a man gets land that isn't quite as good as he gave up. Some few are disgruntled; but, the vast majority are in agreement. Most of the consolidation is still on an informal basis and has no legal status. Even so, we think it is permanent because it would be hard for the farmers to go back to their original plots. All evidence of where the old plots were has disappeared.

Coastal bermudagrass pasture in Damodar Valley. Such pastures are not practical in most communities because of extreme overgrazing.

In Sirsi village, 26 farmers have signed the legal papers to surrender their long, straight, narrow plots. The legal authorities have issued deeds to them for their new contour-bounded fields. This has set a precedent that can be followed by other groups provided they all agree.

So far it is all voluntary and there is no way to bring any force of law into the process. The only force available is that of majority opinion. This may not be enough in some cases, especially if subsidies should be withdrawn. Legislation by which a few dissenters can be brought into line is being worked on.

In all this work some things have made us feel good, others bad. On the good side, we know we can handle the physical problems even though some are tough. The farmers can build good terraces with their own equipment. On the first job we undertook, we constructed a sample terrace with a tractor and 2-disk plow, using the island method. The farmers built the other terraces with their bullocks, wooden plows, and board scrapers.

One terrace was as good as the other. All were fairly small—about 5 square feet cross section—but had a good shape. Because of the small size and the difficulties involved in maintaining the terraces with the local plows, we spaced

Half-pipe spillway made from sheet of corrugated iron roofing empties water from grass waterway to gully.

them closely. Also, because of this maintenance problem most farmers prefer to build a high, narrow ridge that is left uncultivated and grows up in grass.

As often as not, the upland fields are bounded on one or more sides by a mass of gullies with caving heads. Usually water is carried toward these gullies by terraces. Before it gets to them it is intercepted by a sodded channel that runs parallel to the line of gullies. These channels have been quite satisfactory in spite of the heavy grazing. The water is dropped from a channel into a gully by means of a sodded flume when the gully head is low and the volume of water is small. When this is not practical, we have used masonry chutes. These are expensive and are being replaced to a large extent now by cantilever pipe or half-pipe spillways. The half pipes are made from corrugated metal roofing sheets. They are inexpensive and have been quite satisfactory through one monsoon.

We know we can grow good grass with fertilizer, but, there are two problems in grass production. One is to protect it from overgrazing, since fencing is expensive. The other problem is how to make grass production economically feasible. The quality of the cattle is so poor and the size of the farms so small that farmers can't afford to spend much money on fertilizer and fencing for grass. But the fact that they have been willing to put some of their land in permanent grass is in itself encouraging. A good many have harvested grass with small hand sickles and fed it to their cattle.

As the National Extension Service program for upgrading the cattle progresses, it may become more feasible to spend money on the production of feed. Even so, we do not think it will ever be possible to produce enough feed for the present cattle population.

A lot of farmers who never used fertilizer before are buying it for their crops. There is no doubt that this is profitable. It has been proved by controlled experiments and by demonstrations on many farmers' fields.

One thing that discourages us is the size of the job of measuring land for consolidations. It takes an enormous amount of time and work. But, it is the only way we can do the job right and we think it is worth the effort. A lot of holdings have been consolidated in other parts of India, but not in a contour pattern. The Bihar Government is setting up a scheme for consolidation under a new law. It may be that by working together, we can find ways to simplify the measuring problem.

The consolidation of fragmented holdings along contour lines makes possible the planning and application of a good soil- and water-conservation program that is nearly impossible to achieve on the present ownership pattern. We are saving land that would otherwise be destroyed; and, it is potentially good, productive land. We are increasing efficiency by giving farmers their land in larger but fewer pieces. And we are getting groups of farmers to work together for their mutual benefit in a way that should lead finally to a partial solution of a lot of their probems.

Pines and Strawberries

Louisiana Farmers Increase Their Strawberry Profits by Better Management of Pine Woods.

By MEREDITH A. PETERS

RAPID-GROWING, thrifty pine trees have a double value to a strawberry farmer of Louisiana. In fact, if his pine trees don't do well a farmer is likely to think more about the effect on strawberry profits than the loss of harvestable wood products.

Concern about his dying trees led H. P. Hoover, a truck farmer 7 miles east of Ponchatoula, La., to ask the Bogue Chitto-Pearl Soil Conservation District for help in planning a conservation program for his farm.

Gurley H. Mixon, of the Soil Conservation Service, suggested that the overcrowded pine thicket be given proper spacing. He explained how this would result in an increased production of pine straw, which is the local term for dead pine needles.

Mr. Hoover, with assistance of SCS technicians, marked the pine thicket for thinning in the fall of 1954.

Note:–The author is woodland conservationist, Soil Conservation Service, Alexandria, La.

H. P. Hoover inspects his loblolly pine trees and the pine-straw crop.

More than $10.00 per acre was realized from the wood products taken out in the thinning operation. Mr. Hoover is well pleased with h's properly spaced pines and his straw production has increased 50 percent.

Hoover states: "Before thinning, my pine trees produced enough straw to mulch 40,000 berry plants. This year it produced enough to mulch 60,000 plants, and I did no hand raking."

Phillip Mancuso, also a cooperator with the Bogue Chitto-Pearl River Soil Conservation District, has a truck farm 3 miles south of Amite. Strawberries are an important part of his truck farming. Pine straw is placed around his berry plants in December to assure clean, high-grade berries. With mulching completed, he waits for the white blooms which begin to appear in late February. It takes 20 to 30 days for these blooms to develop into ripe strawberries. A frost at this time would set the crop back 3 to 4 weeks. A heavy March frost could cause a crop failure. If frosts are anticipated, after blooming begins, Mr. Mancuso rakes pine straw over the plants from the edges of the rows. The plants are then capped with new straw. This pine straw saves the strawberry crop from frost damages.

Pine-straw mulch under ripening strawberries on the Mancuso truck farm.

Pine trees grow on 95 percent of the strawberry truck farms in Tangipahoa and Livingston Parishes. New needles are formed from pine tree buds in the spring and summer. These new needles remain alive 2 years, then fall to the ground as straw.

Pine thickets can be rated as high straw producers and low straw producers. A high straw producing thicket has well-spaced trees with one-third of the height in green limbs. Lack of proper spacing results in low straw producing thickets. Crowded trees have small tops which produce little straw. On a well-managed thicket 2 acres of pine trees will produce enough straw to mulch one acre of strawberries.

Sufficient pine straw to mulch an acre of 20,000 strawberry plants costs around $75 if purchased. Hence, a 50 percent increase in straw production from an acre of pines may mean a saving of as much as $20 or $30 a year to a strawberry farmer. In additon, it probably means that the pine trees are growing 50 percent faster and that the harvest of wood crops will be that much greater.

NATURAL RESOURCES can have no significance except as they are related to the needs of people. Fertile fields, great forests, the latent power of our great rivers, are of concern to us only as we can use them to satisfy our physical needs. Resources require management to prevent their exhaustion and needless dissipation. They are to be used wisely so that they may be renewed after each use. Conservation means use without abuse—the use of the product without eating up the capital.

—ERVIN L. PETERSON,
Assistant Secretary of Agriculture

There Oughta Be A Law . . .

. . . To Regulate Strip Mining: West Virginia Has One.

By EVERETT LEADBETTER

YOU are gliding along a ribbon of super highway through beautiful country. You see green pastures dotted with sleek cattle; fields of ripening crops, the rows gracefully curved around the contours of the land; the hillsides in an artistic pattern; wooded mountains looking cool and refreshing; now and then a roadside picnic area shaded by sheltering trees; an occasional park with its well-groomed look of green velvet. You have a feeling of pride, pleasure, and inner contentment as the lovely scene unfolds.

Note:—The author is State soil conservationist, Soil Conservation Service, Morgantown, W. Va.

Then, as you swing around a curve in the highway you get a rude jolt. The scene has changed. Ahead of you on the right the land is torn up into an ugly mass of raw earth. A vast hole, big enough to entomb a whole modern shopping center, gapes at you. Barren soil with mounds of shale and chunks of coal are piled up in desolate hills. It's a strip mine!

Your indignation rises. You exclaim: "There ought to be a law against this."

Well, in West Virginia there is a law. And, it's working.

Under West Virginia law, a strip mine operator must post a bond to assure restoration

Strip mine in Northern Panhandle Soil Conservation District, W. Va.

Strip mine area on land of William Compton that has been leveled, fertilized, and seeded to alfalfa. (above) The field immediately after seeding. (below) General view of the field after alfalfa has become established.

of the land. He has to comply with the law in restoring the land before he can be released from his bond. Of course, the requirements are minimum and the public isn't always happy with the restoration job.

But, the law also authorizes soil conservation districts to restore the lacerated land for the mine owners. In that respect, West Virginia may be unique. A mine operator is released from his bond when he completes arrangements with a district to restore the land.

This makes it work out better for everyone. The mine operator doesn't have to wait till the land has been restored to get released. The district doesn't have to worry about getting released from a bond; so, it's in no hurry. It can do the work at the time of year that's best. And it gets help from Soil Conservation Service technicians who know best how the land should be restored. The public benefits by getting a better job.

Then, too, the districts make a little money on the deal. That helps them do a better conservation job for all the farmers.

Restoration of strip mine area on land of Mike Starvaggi. (above) Grading and smoothing the spoil banks. (below) The same area after restoration is completed.

ECONOMIC OBSTACLES TO CONSERVATION FARMING

The Desire for More Corn in Conservation Rotations Prevented Many Iowa Farmers From Adopting Soil Conservation Plans. Recent Research Shows That Mechanical Soil Conservation Practices and Proper Fertilization Will Permit Larger Corn Acreages While Holding Soil Loss to Less Than 5 Tons Per Acre Each Year.

By MELVIN G. BLASE

No. 27

This is the twenty-seventh of a series of articles to appear from time to time in explanation of the various phases of research being conducted by the Department of Agriculture on problems of soil and water conservation.

THE seriousness of erosion on the loess hills of western Iowa and the rather slow progress in controlling it led the U. S. Department of Agriculture and Iowa State College to start a research project in 1949 to analyze the economic obstacles that apparently were preventing more rapid adoption of soil conservation practices. The study also was designed to ascertain the rate of progress farmers were making in the adoption of conservation practices.

The main feature of the study was to give a group of random selected farmers a choice between two conservation plans: One, designed to control erosion and maintain soil productivity mainly through the use of forage crops in rotation with corn and other clean cultivated crops; the other, to provide for a maximum production of cash grain with a maximum use of mechanical erosion control practices, based on the existing technical guides of SCS. Each plan was designed to reduce soil loss to less than 5 tons per acre per year.

When shown the vegetative control plan, in 1949, a common reaction of a great majority of farmers was: "That conservation plan is all right, but I must have more corn in the rotation." Many farmers wanted to grow even more corn than allowed in the plans that called for a maximum use of mechanical practices, such as terracing, contour tillage, and diversion ditches.

When interviewed again, in 1952, most farmers reemphasized the need for more corn than was recommended in the conservation plans.

As a result of the findings in the 1949 and 1952 studies, a current study is underway to ascertain the progress farmers have made in reducing soil loss during the last 5 years, and to determine the kind of conservation plans they prefer.

In the earlier studies, it was found that farmers had several economic reasons for objecting to soil conservation plans. More farmers objected to the high-forage rotations in the plans than to any other practice. Many disliked them because of the number and kind of livestock necessary to use the extra forage. In this area, corn is normally more profitable than forage. The need for immediate income to make mortgage payments and to meet operating and living expenses prevented adoption of the plans on several farms. The landlord's failure to cooperate and the current rental arrangement were obstacles for some farm operators. The short expectancy of tenure and the small size of some farms were mentioned frequently in giving reasons for lack of full adoption of the conservation plans.

As a result of objections of this kind, soil conservationists and researchers tried to find ways to control erosion that required less forage in the rotation. Mechanical practices, such as terracing and contour listing, proved to be effective in this regard. Consequently, in recent

Note:—The author is an agricultural economist, farm economics research division, Agricultural Research Service, Ames, Iowa.

years, adoption of more terracing and other mechanical practices has been emphasized.

Within the last year, engineers and agronomists have revised their recommendations for erosion control. These recommendations give additional encouragement to the use of mechanical practices, as they now appear to be more effective than was previously believed. The revision in erosion-control recommendations was made on the basis of research by the Iowa State College and a Slope-practice workshop. The workshop was held at the request of Soil Conservation Service State conservationists from the nine Midwestern States. Its purpose was to reevaluate the factors used for estimating soil losses, on the basis of 10 years additional research.

The research indicated that greater emphasis could be placed on mechanical practices, for several reasons. Mechanical practices proved to be more effective than was previously believed, while some rotations were somewhat less effective. Terraces were effective on slopes up to 20 rather than 12 percent, as had been previously recommended. Nitrogen fertilizer, as a source of nitrogen, has also proved to be effective in replacing legumes in rotations.

Changes in erosion control recommendations based on research data were the primary basis for revisions in the farm plans that were developed for this third study of "Obstacles to adoption of soil conservation practices."

The revised plans, which call for a maximum use of mechanical practices, allow 55 percent more row crops than the 1949 plans. The greatest increase in acreage of row crops is on farms where the topography is rough. On these farms, the revised plans permit almost twice as many acres of corn as did the old plans. Farms with the smoothest topography had less row crops, on the average, from 1949 through 1952, than the new plans permit. However, during the same period, farmers on the roughest land had an average of 38 percent of their tillable acres in row crops as compared with 28 percent in the new plans.

What effect will such changes in farm plans have in conserving these and other similar hilly, loessial soils? In allowing farmers to maintain their acreages in row crops by installing terraces, one of their chief objections to conservation plans is minimized. Consequently, it is expected that more farmers than previously will follow the plans.

Most farmers will be able to conserve their soil without changing to a high-forage rotation and to livestock that can use this new combination of forage and grain profitably. The required change in farm organization will be less than under the earlier conservation plans; the decrease in immediate net farm income will not be as large; and subsequent increases in farm income are likely to occur sooner.

The vegetative conservation plan that was developed for each farm in 1949 also has been revised. But little change was made in these plans, because research found only minor changes in the effect of forages in controlling erosion. The 1949 high-forage plans called for row crops on an average of 18 percent of the tillable land on the farms. However, from 1949 through 1952, an average of 42 percent of land that could be cultivated was in row crops.

The revised plans for all the farms increase the recommended row crops to 21 percent of the tillable acres. Most of the increase in row crops would be on the most level land. On the roughest land, the acreage of row crops recommended in the 1957 plan is slightly less than was recommended in the 1949 plan.

The past studies of obstacles to control of soil erosion indicated that the greatest soil loss occurred on the roughest land. As the plan favoring mechanical practices now allows considerably more row crops, particularly corn, on the rougher land, it is more likely to be accepted by the farm operators. Many farmers may still object to the high-forage rotation plan. However, the changes in the mechanical practices permitting more row crops will probably cause many farmers to adopt this practice, and thereby erosion in the area will be reduced materially.

In the survey currently underway, emphasis will be placed on investigating methods of getting terraces accepted and installed. Apparently, terracing is the most satisfactory method of controlling erosion without having to shift to high-forage rotations. Further inquiry will also be made into ways of overcoming other economic obstacles to control of soil erosion.

The Waupaca Story

By W. H. LATHROP

JOHN NIMLOS claims to be the Service's laziest man. He thinks no one else has it so good. Each morning he walks a leisurely three blocks to his office in the county courthouse at Waupaca, Wis. A casual acquaintance on the street is just as likely to ask about the progress of the soil conservation program as he is to comment on the weather.

And, work unit conservationist Nimlos's technical service to the Waupaca County Soil Conservation District is as orderly as the office itself. Conservation aid, Al Holly and soil conservationist, Herb Tauchen start the day's work with seemingly few instructions. For phone inquiries about the district, Nimlos is likely to refer the caller to the farmer or businessman in charge of that particular activity. For the farmers concerned, in the Waupaca district, with the help of business and civic leaders, are running their own soil conservation program.

The "Waupaca story" is becoming legendary in Wisconsin. Metropolitan newspapers rewrite it periodically. Farm magazines have printed articles, and radio and TV stations have broadcast events and interviewed personalities connected with it.

What makes things click in the Waupaca district? Few people agree exactly. To understand it you have to meet John Nimlos and leaders like Milton Solberg, president of the Waupaca County Bankers Association, and Alfred Mellen, president of the Waupaca County Farm Improvement Association. You have to visit with Art Smith, unofficial dean of the Bankers Award program, or meet some of the other leaders of the county.

Nimlos was assigned to work with the Waupaca district shortly after it was organized in 1944. But even before that he had dreamed of working in a community where everyone would know about the soil conservation program and would solidly back the district and its activities. Would Waupaca be such a community?

There was a lot of interest right from the start in erosion problems and miscellaneous practices to correct them. There were a lot of

Note:-The author is information specialist, Soil Conservation Service, Milwaukee, Wis.

Township winners of the first annual Bankers Award Program in Waupaca County.

phone calls, a lot of meetings, and a lot of requests to run here and there to do a lot of things that didn't seem to add up to a soil conservation program.

"Right there", says Nimlos, "is where I started getting lazy." He just didn't have time to do all those things and still promote the kind of community program he had dreamed about. He discussed the problem with county agent Mike Drozd. Mike was enthusiastic and cooperative, but he too had a tremendous number of errands to run.

The goal for the Waupaca district the first year, 1945, was 25 farm plans. The number of plans written was 25. The goal was doubled for 1951. Nimlos met it with exactly 50 plans. In the meantime, he was visiting farmers and businessmen. He told them and everyone else willing to listen what a community, working solidly for soil conservation, could accomplish.

Just what elements made the Waupaca program possible are hard to assay. There was a natural interest in conservation. Farmers and businessmen were progressive and cooperative. The County Bankers Association was particularly interested in farm problems. A great many Waupaca County farmers were members of the Holstein-Fresian Association, which had carried out public-minded projects. But most of all there was a spirit of public interest and responsibility.

Take Alfred Mellen, for example. Alfred farms 160 acres near Weyauwega. Along a lake that borders his farm, he has developed what is virtually a public park that he maintains at his own expense. Being an expert wood craftsman, he built a houseboat large enough to accommodate 50 people. It is used by public groups for meetings. Multiply Alfred Mellen by about one hundred and you're ready to explain the success of the Waupaca County Farm Improvement Association and Bankers Award programs.

Since the Improvement Association was organized in 1948, its accomplishments have been many and varied. It has run test plots on fertilizers and corn maturity. It has held meetings to help the county agent with his extension program. It has twice cooperated with the State Field Day and Plowing Matches by providing a dairy bar, wagon trains, and men for clean-up

Mr. and Mrs. Jesse Sannes, twice winners of a township Bankers Award, harvesting oats on a stripcropped field.

work. It has held a family picnic annually since 1950. And each year it furnishes the judges for the Bankers Award Program.

The Bankers Award for progress in farm improvement dates from 1950, but it was not until 1953 that the present system of judging was used. Nimlos believes this system, under which farmers themselves do the judging on others' farms, is the key to the success of the program. The judging takes several days and generates much community spirit and enthusiasm. Its object is to select in each township the farmer and wife team that has made the most progress in farm improvement during the year.

The judges also work as farmer and wife teams and are assigned territories so that they will not judge personal friends or relatives. "We may get into a situation," chuckled Nimlos, "when everyone in the county will be a personal friend of everyone else with no one left to be judges."

A qualification for the winning team is that they must have a conservation farm plan and follow it. Although the judges have a score card, they do not score entirely by points. They consider social activities, public offices held, and work with cooperatives. Each year a county winner is selected from the township winners by the past county winners and the soil conservation district board.

Culmination of the award program is the annual Bankers Association banquet for the winning farmer and wife teams. This is an elaborate social event that lasts from noon to 3 or 4 p.m. It is held at various locations throughout the county.

Under an unusual provision of Wisconsin law, when a soil conservation district is organized the agricultural committee of the county board becomes the governing body. Since Waupaca has a 10-man committee, it's probably the only soil conservation district in the United States with a 10-man governing body. Since 1950, the county board has spent more than $50,000 on heavy equipment for soil conservation work. Included in the equipment are 3 road patrols on which soil conservation jobs have first priority.

Alfred Mellen, president of Waupaca County Farm Improvement Association, at work.

Applications for farm plans are coming faster than they can be handled. The limit on progress of soil conservation work, according to Nimlos, is soil-survey work, machinery, and technical supervision.

It is particularly fitting that a Waupaca County Soil Conservation District cooperator should win Wisconsin's first soil conservation speaking contest in 1956. In his remarks, first place winner Stewart Huber expressed the spirit of the people of Waupaca County when he said, "If America is to live and grow, we must cherish our resources as the breath of life, and pray humbly with Kipling; 'Lord God of Hosts be with us yet, lest we forget, lest we forget'."

New Style Plantation

A Young Man Forsakes an Intended Medical Career To Operate a Large-scale Dairy and Poultry Farm, the Conservation Way.

By BARRINGTON KING

OPERATING a 325-cow dairy farm is a bigtime undertaking. Throw in 6,000 laying hens as a sideline and any farmer would have his hands full. But that's the set up on Melville Farms, operated by Robert Scott, 27-year-old son of U. S. Senator W. Kerr Scott of North Carolina.

Robert Scott didn't intend to be a farmer. He started out to study medicine at Duke University. It was not until he had 2 years of premedical work that he decided to make farming a career. So he transferred to North Carolina State College and took his agricultural course there.

Farming is a tradition in the Scott family. So sentiment probably was a factor in the decision. But keeping 2,200 acres of rolling land productive—and making it pay—takes more than sentiment. It takes a sound knowledge of agriculture and plenty of business ability.

Successful operation of the various phases of the farming program takes a lot of specialized help, too. Soil Conservation Service technicians assigned to two local soil conservation districts provided technical aid in workng out conservaton programs. The Haw River District furnished this service for 1,500 acres in Alamance County, and the Neuse River District serviced the remaining 700 acres in adjoining Orange County.

Scott, his wife, and twin daughters live on the 1,500-acre "home place" at Haw River. One room, furnished with desk, typewriter, and filing cabinets, serves as the farm office. There

Note:—The author is information specialist, Soil Conservation Service, Spartanburg, S. C.

Scott keeps the farm records, types his business letters, and directs operations of Melville Farms.

It seems like a pretty big job for a 27-year old farmer, especially when you subtract 2 years spent in the Army overseas. And, it makes more impressive a certificate that was presented to Robert Scott by the Junior Chamber of Commerce of Burlington Community, "In recognition of his accompilshments in agriculture and his contribution to the communty."

Modest, unassumng Robert Scott gives full credit to his herdsmen, poultrymen, and other specialized employees for the smooth-running operations at Melville Farms. He's enthusiastic, for example, over the accomplishment of Houk Tester, who has charge of a 35-cow dairy herd.

Houk, a local mountain boy, has brought the production of his herd from an average of 7,300 pounds of milk per cow up to 10,000 pounds. Another 100-cow herd has come up from 7,200 to 8,400 pounds.

These figures may not seem so outstanding in some of the older dairying sections, but in the "old cotton and tobacco" South, which is still importing a good part of its milk, these records are something for a farmer to shoot at.

When we visited Melville Farms in late February, the 450 acres of fescue, orchardgrass, and ladino clover pastures were already showing signs of early spring growth. Scott explained that fescue is excellent for young cattle and gives more grazing in spring and fall. But the dairy cows seem to prefer orchardgrass, he said.

In addition to 450 acres of pasture and 120 acres of alfalfa for hay, he puts up 900 tons of silage. This is chiefly corn silage, but some small grain is used. They grow about 175 acres of corn and 300 acres of small grain, mainly oats, on the farms.

The conservation program includes the construction of seven farm ponds, located so as to be readily available to the various pastures. Plenty of water and shade keeps milk production up during the summer months, Scott explains.

The farms are equipped for irrigation, too, but with the conservation rotations that are followed on all the land, they haven't had to irrigate during the severe droughts of the past several years. The rotations include corn, small grain, and lespedeza, followed by 2 or 3 years of pasture or alfalfa.

Robert Scott serving as a farmhand on his 2,200-acre dairy and poultry farm.

Robert Scott studying the possibilities of fishing in one of his farm ponds.

The ponds are also stocked with bass and bluegill. An incidental item of farm income last year was $75 taken in for fishing permits at 50 cents a day.

Milk is marketed through a local cooperative. Eggs from the 6,000 white leghorn layers are sold directly to chainstores in cartons marked, "Melville Farms Eggs." The sale price is based on the Raleigh market, plus 8 cents for grading and packaging.

"The chainstores are anxious to get locally produced eggs if they can count on a dependable supply the year around," Scott points out.

The hens are kept confined in houses. Production averages about 70 percent. Scott keeps exact records of costs, sales, losses, depreciation, and so on.

Average useful life of the hens is about 12 to 14 months, he says. About 4,000 baby chicks are bought each year as replacements. They use chicks bred for production, which cost 40 to 60 cents apiece. The farm follows a strict program of disease control, including vaccination, and sanitary measures. They have never had any serious outbreaks of disease.

Around 700 of the 2,200 acres of farmland is in woods, mostly hardwood. Like other farmers in the South, Scott says, they're giving more and more attention to good woodland management as a part of the overall farm program.

As hardwood species are harvested, they're replanting the land to fast-growing pines. The harvested timber provides lumber for farm buildings. Scott is planning this year to put one pasture area in trees for the Soil Bank.

At one time the farms also produced hogs, sheep, and ponies. Senator Scott developed a bacon-type hog, red with a white band, known as the Melville Farms breed. However, when the Health Department recommended that they get rid of hogs to control brucellosis, the hogs were turned over to North Carolina State College for further production.

Dogs killed so many of the sheep that they finally got rid of the sheep. And ponies were eliminated to provide more pasture for the cattle. Now they are concentrating on dairy cows and poultry: the two go together very well.

"Even if we just broke even on the poultry," Scott says, "we would still be ahead of the game, because of the manure we get. The extra income going to our farm families for the extra jobs the poultry enterprise provides raises their standard of living."

A shower had come up when we reached the farm office. Soon the rain was falling in torrents. We looked out over the green fields and pastures where the grasses and clover were soaking up the raindrops as they fell.

"There are two times when you really appreciate soil conservation," Scott commented. "This is one of them. The other is during the summer droughts like we've been having for the past few years. The water we're storing in the land now will be a big help in the hot, dry weather we'll get later this year."

Robert Scott would have made a good doctor. His calm, confident but unassuming manner would have fit the profession well. But it fits the profession of farming, too. In fact, it's the quality that inspires the teamwork at Melville Farms. It's the ingredient that makes the smooth-working organization click.

GOODYEAR AWARDS.—Soil conservation district supervisors can now earn up to 500 additional points for activities in "soil and water conservation appreciation programs for young people" according to the rules and scorecard for Goodyear's fifth nationwide Soil Conservation Awards Program that ends on April 30, 1958.

It Doesn't Cost

A Delaware Farmer Increases His Output by 50 Percent Through Drainage, Fertilizing, Liming, Crop Rotation, Cover Cropping, Stubble Mulching, and Other Good Conservation Practices.

By FREDERICK T. MOTT

"CONSERVATION farming doesn't cost—it pays," Kurt Schettler of Clayton, Del., tells you. It has paid him by increasing his farm output at least 50 percent.

Kurt faced many problems when he took over his 296-acre farm years ago. He soon learned that he had some poorly drained land as well as some very good land. The wet areas were scattered all over the farm. They gave him trouble all the time. He noticed also that wind and rain erosion and soil-fertility depletion were stealthy thieves.

Schettler pondered how best to solve his conservation problems. To tackle his drainage problem he spent a lot of money and hard labor to lay about 3,000 feet of tile. Then he found that this didn't do the job as well as he had hoped. He was discouraged, but recognized the need for more and better planning.

Note:—The author is work unit conservationist, Soil Conservation Service, Dover, Del.

His neighbors directed him to the Kent Soil Conservation District office. When Kurt went there in October 1949, he says he didn't expect to get much help. But the district supervisors immediately made available to him the services of SCS technicians. He found these technicians were not only ready to help him with his conservation problems but had the tools to do it.

The first job the technicians tackled was to make a soils map of the farm. The map showed there are eight different types of soils on Kurt's farm, although his land is all relatively flat. A considerable acreage of well-drained Sassafras loam and sandy loam are Kurt's best land. There are several acres of Woodstown loam and sandy loam soils, which are neither well nor poorly drained. Here and there are the poorly-drained Fallsington loam, sandy loam, and Othello silt loam soils. The SCS men had found by experience that surface drainage would give the best results on these latter soils.

Mrs. Kurt Schettler and Frederick T. Mott observe the crowns of the bedding system installed on wet areas of the Schettler farm.

Kurt Schettler harvesting soybeans.

The technicians figured how big and how deep his ditches must be and what grade he could expect to get on this relatively flat land. Kurt got these answers, as well as an estimated cost, before he decided where to begin and how much to do.

Through the soil conservation district Kurt got the use of the heavy equipment needed to do the ditching. The Agricultural Conservation Program refunded him about half the cost of his ditch digging.

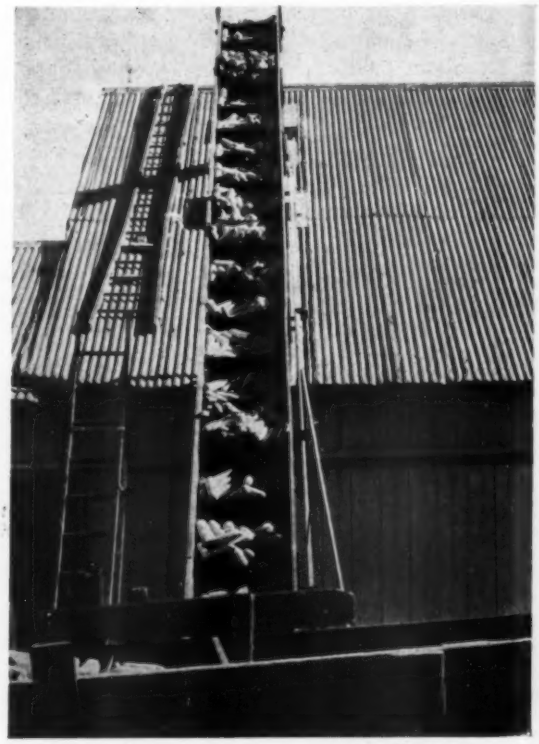
Kurt dug U-shaped outlet ditches. He knew that in some soils these ditches would not drain areas more than a few feet away; so, he laid out a system of field ditches where the wet areas would be plowed in plots about 100 feet wide. He crowned the center with a back furrow and formed a series of V-shaped ditches between the plots with dead furrows. These plots extend at right angles to the bigger outlet ditches; the dead furrows drain into the outlets. Over a period of years Kurt has developed many acres in this manner with his plow and a small terracer, which he bought to maintain his drainage system.

Today, there are more than 3 miles of ditching on his farm. Kurt says that every foot of ditch has paid for itself in 2 years or less.

Schettler, a lifelong farmer, who came from Germany in 1930, expects every acre to produce. He knows it will if it is used and treated right. Through his conservation efforts he has built up his yields to 95 bushels of corn and 35 to 40 bushels of soybeans per acre. He even gets 35 bushels of wheat an acre on land that was once too wet to grow any kind of grain.

Kurt is quick to point out that drainage alone has not brought all these gains. As part of his overall conservation program, he rotates his crops, and fertilizes and limes his soil by test. He limes each field every 3 or 4 years. For planting and topdressing corn he uses up to 700 pounds of commercial fertilizer per acre. He uses about 300 pounds of fertilizer on his soybeans and 600 pounds on his small grain.

This conservation farmer doesn't like to invite erosion by letting his land lie bare during the winter, nor does he like to see his cornstalks standing and housing corn borers throughout the winter. He disks the cornstalk residue, as well as the soybean residue, into the top few inches of soil. The disked residue decomposes quicker than if plowed under; it also acts as a mulch for his cover crop of ryegrass or rye. He plans that once he gets his lands drained he will sow a crimson clover-ryegrass cover crop at the last cultivation in his corn



Corn elevator in operation on the Schettler farm.

SCS technician examines soil of a stubble-mulched cornfield on the Schettler farm.

or soybean crops. He figures the extra amount of root growth from this legume-grass combination will help build up his soil structure.

By improving his farm at least 50 percent with his soil conservation program, Kurt has been able to farm more efficiently and raise the crops of his choice for nearby markets. His increased production has enabled him to invest in the modern machinery needed. He now has four tractors of various sizes, a combine, corn picker, elevators, several wagons, rotary hoe, mower, plows, drill, and other accessories. With this modern equipment Kurt and his wife do most of the work on the 296-acre farm.

FARM EXPORTS AT RECORD HIGH.—U. S. exports of agricultural commodities in 1956 attained all time highs in both quantity and value. The 1956 value of $4,158 million surpassed the previous record of $4,093 million set in 1919 and the post World War II high of $4,040 million in 1951.

A DYNAMIC NATIONAL PROGRAM of research, education, technical assistance, and where needed, cost sharing in soil and water conservation is one of the basic necessities of American agriculture.

—EZRA TAFT BENSON,
Secretary of Agriculture

One Man's Farm – – Another Man's Highway

By JOHN M. CROSS

A historic Sand Mountain farm has been swallowed by "progress." The farm on which the first steam-driven cotton gin in central Marshall County, Ala., was located has ceased to be. It is now a bustling four-lane highway bordered by a filling station, a drive-in theater, and several modern homes.

All that Albert E. Patterson now owns of his former productive 40-acre dairy farm is enough land for a home, a filling station, and a broiler house. "Progress" got the rest.

To begin with, a four-lane highway took 7.3 acres right out of the middle of Patterson's farm. This ruined his pasture system and with it went his dairy business.

Because the highway ran between his home and 12.6 acres of his best pasture, he sold that part of his farm for homesites. He built a filling station on 1½ acres and sold off another corner of his farm for a drive-in theatre.

Mr. Patterson bought the farm in 1927. It had been previously owned by a pioneer farmer —W. A. Darnell—who moved to it from Butts County, Ga., in 1873.

Note:—The author is work unit conservationist, Soil Conservation Service, Guntersville, Ala.

The former dairy farm of Albert E. Patterson.

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Mr. Darnell was one of those strong believers in nature's fertilizer—barnyard manure. A news item in the April 22, 1882, issue of the Guntersville *Democrat* reported that Darnell produced over a bale of cotton per acre.

Albert Patterson agreed with Mr. Darnell on the virtues of manure. He put all of the manure from his dairy herd back on the land, but he used commercial fertilizer also.

The worst crop of cotton he ever made on the place was 28 bales on 25 acres. That was with plenty of barnyard manure and 1,200 pounds of commercial fertilizer.

In 1939, the last year it was in cotton, 57 years after Darnell's record yield, the land was still good. Patterson planted 5.2 acres to cotton, put down 600 pounds of 6-8-4 fertilizer, and his annual application of barnyard manure. He side-dressed the area with 300 pounds of fertilizer. He picked 14 bales from the 5.2 acres. Since then the land has been in grass and legumes for pasture and hay.

The land would have gone on making good yields, because Mr. Patterson had a good water-disposal system on it and was still careful to keep the soil's organic content high. But, he is in the filling station business now, and his neighbors have suburban homes near a four-lane highway.

Land with a record of high yields grows no better filling stations, highways, or outdoor theatres than poor, eroded land, but "progress" makes no allowance for that.

DOOR PRIZE.—A. M. Weaver, of Portland, Ore., recently received a subscription to SOIL CONSERVATION Magazine as a door prize for attending a regular meeting of the Kiwanis Club. The subscription was given by Paul E. Lemmon, soil scientist, SCS, whose background and work was featured that day on the Kiwanis program. According to a custom of the club, the member whose work is featured at a meeting provides the door prize.

SOIL THAT MOVED.—This is a story of soil that left the farms but didn't blow or wash away.

The farmers sent or took it. They know—with satisfaction—exactly where it is. It's now a part of the landscaped grounds at the new headquarters building of Consumers Cooperative Association in Kansas City, Mo.

It's there, doing its part to feed and support the new trees, shrubs, flowers, and lawn; in effect, a symbol of the regionwide ownership of the cooperative.

There is soil from how many farms? Nobody can really say, because, despite the best of intentions, it became impossible to keep track.

The story began last fall with the meeting of the Missouri State Soil Districts Commission at Liberty, Mo. Only a few miles away, on the north bluff of the Missouri River, overlooking the Kansas Citys, the new headquarters building of the regional cooperative was nearing completion. In appreciation of CCA's helping to sponsor their meeting, the conservation leaders brought 32 samples of soil to be spread upon its new grounds. a sample from each of the State's 32 soil districts.

The president of CCA soon afterward reported these activities to the CCA board, whose 21 members come from 8 States. Several of the board members thought at once that some of the soil conservation districts in their States—not to mention the cooperatives and individual farmers—also would like to contribute soil for the regional co-op's grounds. And from there the idea grew and spread.

Farmers individually or as representatives of local cooperatives or soil conservation districts brought samples of soil to CCA's annual meeting in Kansas City. Many others sent them.

From within the region there were contributions of soil from 180 or more soil conservation districts, cooperatives, and individuals. Contributions also came from 15 States and from Canada, Great Britain, Egypt, Israel, the Scandinavian countries, and many others—18 Nations, in all.

SOIL CONSERVATION DISTRICTS are the best mechanism ever devised in this country by which farmers may carry out their own programs—such as soil conservation—in cooperation with government but without being dominated by government.

—D. A. WILLIAMS, *Administrator, Soil Conservation Service*